

II. MARKED UP COPY OF REPLACEMENT PARAGRAPHS TO THE SPECIFICATION TO SHOW CHANGES

A marked up copy of the first full paragraph commencing on page 4 of the specification follows:

The present invention relates to low-VOC (volatile organic compound) and/or low-toxicity coating formulations, including at least one non-halogenated solvent including terpene(s) or terpenoid(s) and at least one polymer comprising one of conducting polymers, electroactive polymers and/or conjugated polymers, wherein the non-halogenated solvent(s) and polymer(s) are in non-aqueous form. In another embodiment, the present invention includes a low-VOC (volatile organic compound) and/or low-toxicity coating formulation, including about 0.01 % wt. to about 99.9 % wt. of at least one non-halogenated solvent including terpene(s) or terpenoid(s), about 0.01 % wt. to about 90 % wt. of at least one polymer comprising of conducting or electroactive polymer(s), conjugated polymer(s), and about 0.001 % wt to about 90 % wt. of at least one surfactant, wherein non-halogenated solvent(s), polymer(s), and surfactant(s) are in non-aqueous form. In other embodiments, the coating formulations include at least one of co-polymer, block polymer, and mixtures thereof. Embodiments of the present invention further include aqueous low VOC and/or toxicity coating formulations having at least one non-halogenated solvent including terpene(s) or terpenoid(s), and at least one copolymer, block polymer, and mixtures thereof.

The terpene or terpenoid includes at least one of dipentene (d-limonene), α -pinene, β -mircene, p-cimene, citronellolio, geraniale (citrale), nerol, beta-carotene, menthol, geraniol, farnesol, phytol, their homologs, derivative, enantiomers, isomers including constitutional

isomers, stereoisomerisms, regioisomers, and geometric isomers, and any combination thereof. The conducting polymers include at least one of poly dialkylaminophenylene vinylene including poly[bis(N-methyl-N-hexylamino)phenylenediamine poly[bis(N-methyl-N-hexylamino)phenylenevinylene] (BAMPPV) and polydialkoxyphenylenevinylene including poly[2-methoxy-5-(2'-ethylhexyloxy)-1,4-phenylenevinylene] (MEHPPV), polyphenylene vinylenes, polythiophenes, polypyrroles, polyanilines, polyacetates, polyacetylenes, polyacrylates, polyazene, polystyrene, poly-N-vinylcarbazole, polyvinylpyridine, polyindole, copolymer, block polymer, and any combination thereof. The conducting (including electroactive or conjugated) polymers are in neutral, oxidized or reduced form, in the form of a salt including an emeraldine salt, or in any basic or acidic form.

A marked up copy of the first full paragraph commencing on page 7 of the specification follows:

Conjugated polymers have a framework of alternating single and double bonds. These consist of carbon hetero-atom bonds including but not limited to carbon-carbon, carbon-nitrogen, carbon-oxygen, carbon-sulphur bonds. Conjugated polymers are polyunsaturated compounds in which most if not all backbone atoms are sp - or sp^2 -hybridized. For the purposes of the present invention, the terms conductive, electroactive, and conjugated will be interchangeably utilized throughout. For the purposes of the present invention, a conductive polymer may include homopolymers, block polymers, copolymers, or mixtures thereof. The conducting polymers include at

least one of polydialkylaminophenylenevinylene including ~~poly[bis (N-methyl-N-hexylamino)phenylenediamine~~ poly [bis (N-methyl-N-hexylamino)phenylenevinylene] (BAMPPV) and polydialkoxyphenylenevinylene including poly[2-methoxy-5-(2'-ethylhexyloxy)-1,4-phenylenevinylene] (MEHPPV), polyphenylene vinylenes, polythiophenes, polypyrroles, polyanilines, polyacetates, polyacetylenes, polyacrylates, polyazene, polystyrene, poly-N-vinylcarbazole, polyvinylpyridine, polyindole, and any combination thereof. The conducting (including electroactive or conjugated) polymers are in neutral, oxidized or reduced form, in the form of a salt including an emeraldine salt, or in any basic or acidic form. The terpene or terpenoid solvent and conducting polymer formulations are in non-aqueous form comprising a solution, mixture, suspension, or emulsion. All terpenes, terpenoids, and polymers would ideally be non/low toxic and low VOC.

A marked up copy of the first full paragraph commencing on page 8 of the specification follows:

In embodiments of the present invention, terpene and polymer solutions, mixtures, suspensions, or emulsions are added to organic coating systems. Above combinations are used to incorporate a polymer into an organic or inorganic coating or resin, including but not limited to epoxies, polyurethanes, polyamides, polyimides, polysulfides, polysiloxanes, polyvinyls, polyphenolics, polyxylenes, polyacrylics and polyesters. In embodiments of the present invention, ~~inorganic resins~~ organic resin includes, but is not limited to polyamides, phenolics, ~~nylons~~, polypropylenes, and polyethylenes. The present

coating formulations can be applied to a substrate including, but not limited to spray coating, dip coating, spin-coating, flow-coating, doctor blade coating, or screen-printing.

The substrates include plastic, rubber, metal, metallic and like surfaces. Embodiments of the present invention are further utilized for corrosion protection as replacements for hexavalent chrome.